

CLAIMS

1. An optical component casing with an illumination optical axis of light beam irradiated by a light source being set therein, in which a plurality of optical components are housed and arranged at predetermined positions on the illumination optical axis, the
5 optical component casing comprising:
a casing body having a plurality of holes penetrating toward the inside thereof, in which the plurality of optical components are housed and arranged therein;
and a plurality of positioning members for positioning the plurality of optical components at the predetermined positions in the casing body,
10 wherein the plurality of positioning members are inserted to the plurality of holes to abut on the optical components so that the plurality of optical components are positioned at the predetermined positions on the illumination optical axis of the light beam irradiated by the light source.
2. The optical component casing according to claim 1, wherein the casing body is
15 formed by sheet metal processing.
3. The optical component casing according to claim 1 or 2, wherein the plurality of positioning members include a parallel arrangement positioning member that abuts on the optical component arranged along an inner side of the casing body to position the optical component at the predetermined position on the illumination optical axis of the light beam
20 irradiated by the light source.
4. The optical component casing according to claim 3, wherein the parallel arrangement positioning member has a plurality of pins inserted to the plurality of holes to abut on the optical component.
5. The optical component casing according to claim 4, wherein the parallel
25 arrangement positioning member includes a plate body integrating the plurality of pins.
6. The optical component casing according to any one of claims 1 to 5, wherein the plurality of positioning members include orthogonal arrangement positioning members each of which abuts on the optical component housed in the casing body in a manner orthogonal to the illumination optical axis of the light beam irradiated by the light source

to position the optical component at the predetermined position on the illumination optical axis of the light beam irradiated by the light source.

7. The optical component casing according to claim 6, wherein the orthogonal arrangement positioning member has a groove having a V-shaped cross-section so that the groove abuts on an outer periphery of the optical component.

8. The optical component casing according to any one of claims 1 to 7, wherein a support portion for supporting the positioning member is formed at the hole.

9. The optical component casing according to claim 8, wherein the hole is formed by cutting and folding a part of a lateral side of the casing body,

wherein the cut and folded part of the lateral side serves as the support portion.

10. The optical component casing according to any one of claims 1 to 9, further comprising:

a pair of plate members opposite to both ends of the optical component housed in an inclined manner relative to the lateral side of the casing body,

wherein the plurality of positioning members include an inclined arrangement positioning member that includes spacers respectively interposed between the both ends of the optical component and the plate members to position the optical component at the predetermined position on the illumination optical axis of the light beam irradiated by the light source by way of the spacers.

11. The optical component casing according to claim 10, wherein the inclined arrangement positioning member includes the spacers, a mount fixed on the bottom side of the casing body and the pair of plate members vertically provided on the mount.

12. The optical component casing according to claim 10 or 11,

wherein each part of the pair of plate members is cut and folded toward the other plate member,

wherein the cut and folded part of the plate member serves as a support portion for supporting the spacer.

13. The optical component casing according to any one of claims 10 to 12, wherein

the spacer has a face slanted along an inclined direction of the optical component.

14. An optical component casing with an illumination optical axis of light beam irradiated by a light source being set therein, in which a plurality of optical components are housed and arranged at predetermined positions on the illumination optical axis, the
- 5 optical component casing comprising:

a casing body having a hole penetrating toward the inside thereof and support portions for supporting a group of the plurality of optical components; and

a plurality of positioning members for positioning the rest of the plurality of optical components at predetermined positions in the optical component casing,

- 10 wherein the plurality of positioning members are inserted to the holes to abut on the optical components so that the rest of the optical components are positioned at the predetermined positions on the illumination optical axis of the light beam irradiated by the light source,

- wherein the group of the optical components are held by the support portions
- 15 while being positioned at the predetermined positions on the illumination optical axis of the light beam irradiated by the light source,

wherein each one side of the group of the optical components is fixed on each one side of the support portions.

15. The optical component casing according to claim 14, wherein a groove is formed
- 20 on each of the support portions at a position abutting the one side of the group of the optical components to inject an adhesive for fixing the group of the optical components.

16. The optical component casing according to claim 15, wherein the groove is formed in an approximately planarly-viewed straight line extending from a first side of the support portion to a second side opposite to the first side so that an outflow of the adhesive
- 25 from the first side to the second side opposite to the first side is restricted by a terminal on the second side.

17. An optical component casing with an illumination optical axis of light beam irradiated by a light source being set therein, in which a plurality of optical components are housed and arranged at predetermined positions on the illumination optical axis, the

optical component casing comprising:

a plurality of support portions formed on an inner side of the optical component casing for respectively supporting the plurality of optical components,

5 wherein the plurality of optical components are respectively held by the plurality of support portions while being positioned at the predetermined positions on the illumination optical axis of the light beam irradiated by the light source,

wherein each one side of the plurality of optical components is respectively fixed on each one side of the plurality of support portions.

18. The optical component casing according to claim 17,

10 wherein at least one of the support portions is formed in a profile having a V-shaped cross-section to sandwich and support both sides of the optical component,

wherein each inner side of the support portions is fixed on at least one of the both sides of the optical component.

19. The optical component casing according to claim 17 or 18,

15 wherein at least one of the plurality of support portions projects from the inner side of the optical component casing to support the optical component arranged along the inner side at a projected tip end thereof,

wherein the tip end of the support portion is fixed on the one side of the optical component.

20 20. The optical component casing according to claim 19, wherein the optical component casing is a synthetic resin molding product having a frame-shaped hole formed on the inner side of the optical component casing to planarly surround the support portion.

21. The optical component casing according to any one of claims 18 to 20, wherein a groove for an adhesive for fixing the optical component to be injected is formed on the support portion at a position abutting on the optical component.

25 22. An optical component casing with an illumination optical axis of light beam irradiated by a light source being set therein, in which a plurality of optical components are housed and arranged at predetermined positions on the illumination optical axis, wherein a plurality of holes into which each part of positioning jigs for positioning the

plurality of optical components at the designed predetermined positions can be inserted are formed on a side of the optical component casing.

23. A projector comprising:

an optical component casing according to any one of claims 1 to 22;

5 a plurality of optical components housed and arranged in the optical component casing to form an optical image in accordance with image information; and

a projection optical device for projecting the optical image formed by the plurality of optical components in an enlarged manner.